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RETAIL GROCERY STORES

A Study of Certain Problems of the Retail Grocer in New York City

INCLUDING THE

Results of Investigations Conducted During the
War Period by the New York Federal
Food Board and the New York
State Food Commission

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NEW YORK STATE DEPARTMENT OF FARMS AND MARKETS

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Annymm fiji

INTRODUCTORY NOTE

During the War the New York Federal Food Board, which was a consolida-tion of federal and state food administration agencies carried on extensive investigations as to the costs of operating retail stores in New York City. These investigations as to the costs of operating retail stores in New York City. These investigations were undertaken primarily to furnish a reliable basis for determining the fair margins of profit issued by the Board. A large force of inspectors and accountants were put on the work over a period of several months and all results were verified repeatedly so that the Board might be able to say accurately just what were the proportionate volume of business in different commodity groups and the elements of cost in operation of retail grocery and meat shops.

When the armistice came the government price regulating work came suddenly to an end. With far-seeing appreciation of the scientific permanent value of these research studies, however, Mr. John Mitchell, the Chairman of the Board and President of the New York State Food Commission, arranged for Board and President of the New York State Food Commission, arranged for salvaging the results of the investigations in three reports on retail grocery stores, Gentile butcher shops and Kosher butcher shops. With the termination of the existence of the temporary war-time food administrative agencies, these reports were turned over to the permanent State Department of Farms and Markets for publication.

The Retail Grocery Report is here presented. The two other reports on costs of operation of butcher shops are still in manuscript form.

These studies were planned and initiated by George L. Bennett, Assistant Director of Transportation and Distribution, and were carried out under his

Director of Transportation and Distribution, and were carried out under his leadership. The investigational work and compilation was performed under the supervision of Mr. John J. Pollock, who, in the latter days of the Board's activities, succeeded Mr. Bennett as Assistant Director. The computations and tabulations were under direct charge of Mr. I. Finkelstein. Acknowledgment is due these gentlemen for the great assistance which they have rendered in the preparation of this data for publication.

The text was written and the illustrations were designed by Miss Edith J. Munsell, formerly editor of publications, New York State Department of

Farms and Markets.

Since 1918, when this investigation of retail grocery stores was made, costs have increased considerably, but they are now lowering again. There are reasons to expect that the more stabilized conditions of the near future will approximate those of 1918. But irrespective of whether this is or is not the approximate those of 1918. But irrespective of whether this is of is not the case, there is presented herein so much information of a sort never before made public and which can be so easily changed to fit to the conditions of to-day and to-morrow that the New York State Department of Farms and Markets believes this report will be of great service to the public and to the grocers themselves.

A Study of Certain Problems of the Retail Grocer

It is the aim of this bulletin, first, to present to the consumer certain viewpoints on the problems of the retail grocer and their reaction on the prices he pays for his food, and further to set before the grocer himself the results of investigations made in May, 1918, of a representative number of typical grocery stores in New York City. Conditions or type and quantity of products purchased may differ for other cities, but with the data given for guidance it is anticipated the grocer can compare the status of his own business and perhaps discover one or two new angles from which to approach his own problems.

VOLUME OF TRADING

In this study the sum total of the retail grocer's purchases is designated as his volume of trading. In certain commodities his volume of trading is large. In others it may be very small. These facts are set forth clearly in Table 1, which presents a summary of a detailed study of the purchases made by 58 grocery stores in Greater New York for the year 1917, selected as being representative of all conditions of trade.

This study was made up by analyzing the purchase bills of the 58 stores for a period of one year. Purchase bills were analyzed in preference to sales slips (purchases by customers) in order to save the immense amount of labor that such procedure would have involved. Had the sales slips been analyzed, the only differences that should occur between purchases and sales would be those ascribable to products that deteriorated to such an extent as to be unfit for human consumption and to variations in profits. Intelligent buying and handling make these differences, for staple products, a comparatively negligible factor, or in other words, analysis of purchase slips may be expected to give a fair indication of relative sales when relative profits are considered.

ANALYSIS OF PURCHASING IN PERCENTAGE, AS EVIDENCE IN NEW YORK CITY. Dairy Products and Force.	ED FROM AN	5
--	------------	---

THEW TORK CITY.	CHOCKE	STORES
Dairy Products and Eggs		
Butter	Per cent.	
Butter substitutes	. 13.8	
Eggs Milk	. 1	
Milk Cheese	. 12.2	
Cheese Bread and Flour	. 8.2	
Bread		35.5
Bread Wheat flour	9.5	
Wheat flour Crackers and cake. Macaroni and s. achetti	2.3	
Macaroni and graphetti	3.6	
Macaroni and syaghetti.	. 5	
Other flour	.4	
		16.3
Condensed and evaporated milk	2.9	20.0
Fish	1.6	
Tomatoes Peas	1.3	
	.8	
Soup3 -Beans	.8	
	.7	
Other canned goods		
	.4	
	.4	
	.8	
Sugar		9.7
Molasses and syrups		
Jams and preserves.	. 4	
Fresh Vegetables	. 6	
Potatoes		8.9
Potatoes	2.9	
Onions	. 9	
	3.0,	
		6.8
Nuts, spices, condiments, relishes, etc		
	1	4.6
Coffee		
	2.6	
Cocoa, Chocolate, etc	1.3	
	. 5	
Soaps and Soap Powders		4.4
Missellana a		3.2
The voice with course commodifies		
Polish, brocms, etc		0 =
		2.7
Cornmeal		
	. 1	
Barley	. 9	
	.1	
Other cereals	1.2	
	. 1	
Fresh Fruits		2.4
Dried Fruits		2.3
Prinas		
Prunes	.8	
	.3	
	. 5	
Beans	-	1.6
PeasOthers	. 7	
Others	. 2	
	. 1	
Lard — Lard substitutes		1.0
Lard substitutes	. 4	
	.2	
		0.6
Total		-
	100	0.0
		_

Allowing 100 per cent to stand for gross purchases, the accountants engaged in this study computed in percentages the relative volume of trading for each commodity handled, arranging the commodities in groups with subtotals for each. These percentages are presented with some degree of assurance, since after forty businesses had been analyzed there was practically no variation when the further data were added, the results of the analyses for the first forty businesses being practically identical with those of the fifty-eight businesses ultimately analyzed.

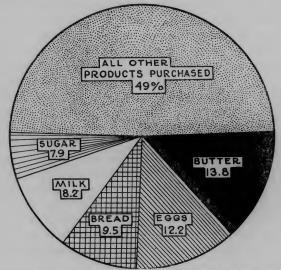


FIG. I.— THE ACCOMPANYING GRAPH SHOWS WHAT MERCHANDISE THE GROCER BUYS FOR EACH DOLLAR SPENT.

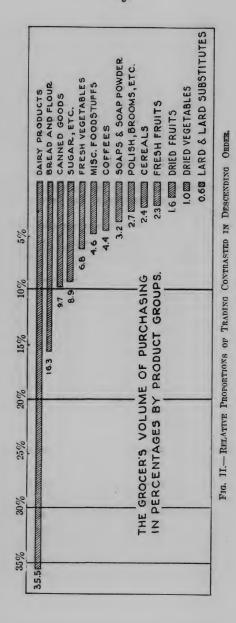
The first or dairy products groups of percentages, with a total of 35.5 per cent, is the largest, constituting more than one-third of the total volume of business. The bread and flour group is second with a total of 16.3 per cent, canned goods third, its total being 9.7 per cent. Arranged in order of descending percentages of purchase for their respective totals, the remaining groups are the following: sugar, molasses, and preserves; fresh vegetables; coffee; nuts and spices; soap and powders; polishes and brooms; cereals; fresh fruits; dried fruits; dried vegetables; and

lard and lard substitutes. In Fig. 1, for which Table 1 is the basis, the relative proportions of trading in each group are graphically set forth, indicating the contrasts in total gross sales for the various groups of commodities handled.

Proceeding from the consideration of the percentages of trading in Table 1 by groups to that of volume of trading in individual products, it is interesting to find that the largest group — that of dairy products — contains the two largest single items of business — butter with a volume of 13.8 per cent and eggs with a volume of 12.2 per cent. Butter and eggs alone it would appear from the compilation constitute one-fourth the average grocer's trade, while milk from the same group with a volume of sales of 8.2 per cent, bread from the second group at 9.5 per cent, and sugar from the fourth group at 7.9 per cent total a second quarter, or 25.6 per cent. Obviously then, more than 50 per cent of the business done in fifty-eight stores in New York City in 1917, was done in the five staple commodities — butter, eggs, milk, bread, and sugar.

In Table 1 the precise number of products handled is not shown. Certain group products, such as "crackers and cake," "other vegetables," "nuts and spices," "jams and preserves," suggesting substantial lists in themselves would lengthen the fifty entries already set forth indefinitely. Yet this unnumbered variety of products constituting the stock in trade of the retail grocery store aside from the five items already mentioned — butter, eggs, milk, bread, and sugar — constitute but 48.4 per cent of the whole volume of purchases, or the difference between 100 per cent and 51.6 per cent as shown in Fig. 2.

In the foregoing it has been shown that approximately 50 per cent of the money paid out by the grocer for his stock in trade goes for butter, eggs, milk, bread, and sugar. It is of interest to follow the accumulated data somewhat further and to note for certain products how percentage of gross profit based on selling price compares with the percentages of total trading just analyzed. In Table 2, 65 per cent of the total volume of trading has been itemized and the items arranged descendingly in order of their respective volumes, which have been taken from Table 1. In each case column 2 shows the purchase price per unit (pound, dozen,



quart, or can, as the case may be); column 3, the selling price per unit; column 4, the gross profit per unit; and column 5, the percentage of gross profit based on selling price, or the datum in column 4 divided by the corresponding datum in column 3. Despite the fact that the five products previously referred to have the largest relative volumes of trading, an examination of column five will show that their respective percentages of gross profit based on selling price per unit are in each case less than the respective percentages of gross profit for any of the other products listed in 65 per cent of the total volume of trading.

Table 2.— Relative Volume of Trading and Percentage of Gross Profit for Certain Commodities, Totaling 65 Per Cent of the Grocer's Volume of Purchasing.*

COMMODITY	Percentage of total trading (per cent)	Average cost per unit purchase (cents)	Average selling price per unit (cents)	Average gross profit per unit (cents)	Percentage of gross profit based on selling price
Butter. Eggs. Bread Milk Sugar Potatoes Flour Canned fish Canned tomatoes Cheese. Rice Dinions Canned peas Beans Canned peas Beans Canned peas Canned peas Canned peas	13.80 12.20 9.50 8.20 7.90 2.90 2.30 1.60 1.30 1.20 .90 .80 .70 .40	70.50 65.50 7.50 12.46 9.35 3.25 6.37 18.25 12.75 39.50 11.50 2.25 14.75 13.33 15.50 13.00	76.50 72.50 8.62 14.23 10.35 4.25 7.37 22.75 16.00 46.50 13.50 13.50 18.25 16.33 19.00 15.50 6.62	6.00 7.00 1.12 1.77 1.00 1.00 4.50 3.25 7.00 1.50 3.00 3.50 3.50 2.00	7.84 9.65 12.99 12.44 9.66 23.53 13.56 19.78 20.31 15.05 14.81 40.00 19.18 18.37 18.42 16.16
Subtotal	65.00 35.00				
Total	100.00				

^{*} Prices prevailing in April, 1918.

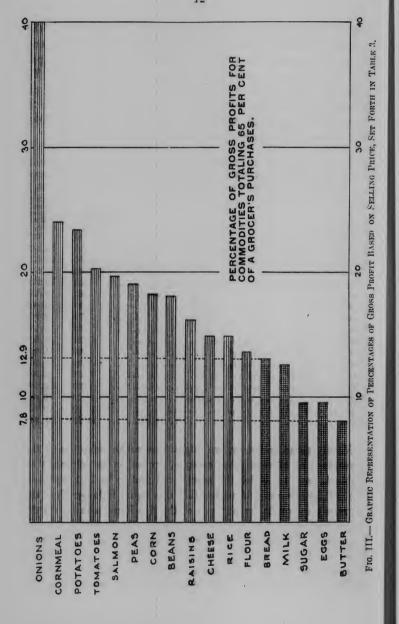
Butter, which has the largest volume of trading of any product sold, shows the least percentage of profit per unit (pound); eggs, which stand second in volume, show the next least percentage of profit per unit (dozen), being almost tied with sugar, which in the volume-of-trading column ranks fifth. Bread and milk, the third and fourth items in Table 2, make relatively larger percentages of profit per unit (loaf) and per unit (quart) respectively; yet not

one of these five, which constitute better than 50 per cent of the volume of trading, made as large a per unit profit as did any one of the other twelve items, which constitute the remaining 15 per cent in the 65 per cent of the volume of trading itemized. To make this point clear the percentages of gross profit based on selling price have been arranged in descending order in Table 3, bread, milk, sugar, eggs, and butter being found at the foot of the list. These statistics are also set forth graphically in Fig. 3.

Table 3.— Percentages of Gross Profit Based on Selling Price, Arranged in Descending Order for 65 Per Cent of the Groces's Total Volume of Trading, Accompanied by Percentages of Volume of Purchase.

Cornmeal 10 24 Potatoes 2.90 23 Tomatoes 1.30 20 Canned fish 1.60 19 Canned peas 80 19 Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1.20 15 Rice 90 14 Flour 2.30 13 Bread 9.50 12 Milk 8.20 12 Sugar 7.90 9 Eggs 12.90 9	Commodity	Percentage of total trading	Percentage of gross profit based on selling price
Potatoes 2.90 23 Tomatoes 1.30 20 Canned fish 1.60 19 Canned peas 80 19 Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1.20 15 Rice 90 14 Flour 2.30 13 Bread 9.50 12 Milk 8.20 12 Sugar 7.90 9 Eggs 12.90 9	Onions	 90	40.00
Tomatoes 1 .30 20 Canned fish 1 .60 19 Canned peas 80 19 Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1 .20 15 Rice 90 14 Flour 2 .30 13 Bread 9 .50 12 Milk 8 .20 12 Sugar 7 .90 9 Eggs 12 .90 9	Cornmeal	 10	24.16
Canned fish 1 .60 19 Canned peas 80 19 Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1 .20 15 Rice 90 14 Flour 2 .30 13 Bread 9 .50 12 Milk 8 .20 12 Sugar 7 .90 9 Eggs 12 .90 9	Potatoes	 2.90	23.53
Canned peas 80 19 Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1 20 15 Rice 90 14 Flour 2 30 13 Bread 9.50 12 Milk 8 20 12 Sugar 7.90 9 Eggs 12.90 9	Tomatoes	 1.30	20.31
Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1 20 15 Rice 90 14 Flour 2 30 13 Bread 9.50 12 Milk 8 20 12 Sugar 7.90 9 Eggs 12.90 9	Canned fish	 1.60	19.78
Canned corn 40 18 Beans 70 18 Raisins 30 16 Cheese 1 20 15 Rice 90 14 Flour 2 30 13 Bread 9 50 12 Milk 8 20 12 Sugar 7 90 9 Eggs 12 90 9	Canned peas	 80	19.18
Raisins 30 16 Cheese 1 . 20 15 Rice 90 14 Flour 2 . 30 13 Bread 9 . 50 12 Milk 8 . 20 12 Sugar 7 . 90 9 Eggs 12 . 90 9	Canned corn	 40	18.42
Cheese 1 . 20 15 Rice .90 14 Flour 2 . 30 13 Bread .9 . 50 12 Milk 8 . 20 12 Sugar .7 . 90 9 Eggs 12 . 90 9	Beans	 70	18.37
Rice 90 14 Flour 2.30 13 Bread 9.50 12 Milk 8.20 12 Sugar 7.90 9 Eggs 12.90 9	Raisins	 30	16.16
Flour 2 .30 13 Bread 9 .50 12 Milk 8 .20 12 Sugar 7 .90 9 Eggs 12 .90 9	Cheese	 1.20	15.05
Bread 9.50 12 Milk 8.20 12 Sugar 7.90 9 Eggs 12.90 9	Rice	 90	14.81
Milk 8.20 12. Sugar 7.90 9 Eggs 12.90 9	Flour	 2.30	13.56
Sugar 7.90 9 Eggs 12.90 9	Bread	 9.50	12.99
Eggs	Milk	 8.20	12.44
	Sugar	 7.90	9.66
			9.65
	Butter		7.84

Merely as an indicator, we might here make reference to the percentage of average gross expense, appearing in column 4 of Table 4, page 14, which the reader will find to be 14.1 per cent. He will be interested in noting that this figure is larger than the average gross profit for any one of the five items making up the larger half of the total volume of trading. By featuring the percentage in this connection we do not mean to imply that butter, eggs, bread, milk, and sugar are necessarily sold at a loss. These commodities are in many instances used as leaders to attract trade and to help sell other articles in which the main profits



are made. To answer, therefore, the question of whether or not the sale of these products constitutes a real loss to the business, one must first apply not the average cost of doing business for all commodities, but the actual cost of doing business for each particular commodity, and secondly, the economic criterion whether the net profits of the business as a whole would increase or diminish if the volume of trading in these items were respectively increased or diminished at the expense of the volume of trading in other items. The significance of the percentage 14.1, therefore, lies only in its warning to the grocer of the importance of analyzing his profits and his costs and in its appeal to the consumer for a fair understanding of the grocer's problems before preferring blind charges of increasingly high prices and wilful profiteering.

If the percentages of gross profit based on selling price are considered further, it will be observed that certain percentages of profit seem relatively high. Onions, for example, show a perunit-quart profit of 40 per cent, yet their 0.9 per cent volume of trading entry, shown in column 1, Table 1, must be considered in estimating their relative importance as an item of business. Potatoes show a profit of 23.53, while their volume of purchase is 2.9 per cent—less than one-thirtieth of the total volume of business. Cornmeal, the last item listed and the least by volume (0.1 per cent, or 1/1000 of the total volume of trading), gives what considered independently would seem to be a substantial gross profit—24.16 per cent per unit pound, but a gain of only 1½ cents for each pound weighed and wrapped.

Referring to Table 2 and comparing one product with another, it will be observed that butter makes about one-half the percentage of gross profit that is made on cheese and involves the expenditure of somewhat less than twice the capital per unit pound. On the other hand, it is apparent that more than ten times the quantity of butter was sold as compared with cheese, and butter proves a leader to attract trade.

Again, sugar seems to make about half the percentage of gross profit as compared with that made on canned goods. Moreover, each pound of sugar has in most cases to be weighed and wrapped and tied. On the other hand, rather less capital is required for an investment in sugar, and seven to ten times the quantity is sold as compared with canned goods of various kinds.

Rice and onions, which show the same percentage of volume of trading exhibit a rather spectacular contrast in profit — 14.81 per cent and 40 per cent respectively. Each would seem to require an approximately equivalent degree of labor in the way of weighing

or measuring and wrapping.

Investigation has shown that the greatest difficulty of retailers has in the past been ignorance of their own businesses, and that success has ultimately been won, if won at all, after expensive trials and errors. In these days of keen competition vague conceptions of the laws governing business are not conducive to success, and on the contrary are often the cause of failure. The grocer should gain much by an intimate and analytical acquaintance with his stock in trade, such as has been briefly suggested in the foregoing pages. In fact he should thus be able to accumulate in a few months of concentrated and systematic study an experience that otherwise might require a period of years to gain by observation.

It will prove worth while for the retailer to compute his volume of trading for each commodity handled, but he should not stop there. He should know also his average gross profit per commodity unit, his percentages of gross profit based on selling prices, and the comparative labor involved in handling a given product. He should know his service costs. He would then be in a position to make comparisons between stocks that pay and those that do not. He could also determine which were worth featuring as leaders to attract trade and which could be discarded as a source of profit leakage.

To the consumer who has followed the exposition here set forth, it should be apparent that a business, in which 50 per cent of the trading is done in products that make a per unit profit considerably below the average percentage for expenses, is necessarily somewhat hazardous. This is especially true since many of the products handled are perishable and constant vigilance is necessary in order to prevent waste. Moreover, the profits themselves are small and the labor connected with handling some of the smallest profit commodities, large. Added to these considerations are the often unreasonable demands of consumers for elaborate service, a subject on which the succeeding article, "Cash-and-Carry Versus Credit-and-Delivery Systems" should throw some light.

CASH-AND-CARRY VERSUS CREDIT-AND-DELIVERY SYSTEMS IN THE RETAIL GROCERY STORE

The study here presented has been deduced from data obtained through the questionnaire* circulated by agents of the Federal Food Board and covering the fiscal year ending September 30, 1918. The analysis was made of the records of 128 representative grocery stores located in various parts of New York City, and the classification of these stores as serving poor, middle, or wealthy class neighborhoods was based on the proprietor's own estimate of the type of trade served. For example, if, in reply to the agent's question, "What type of customers give you their patronage?" the grocer replied, "Average," the grocery was recorded in the middle class. If the grocer said, "Our patrons are mostly well-to-do," his grocery was recorded in the wealthy class.

Briefly summarized, certain outstanding data compiled from the 128 questionnaires may be presented as follows:

	Poor	Middle	Wealthy	For all*
Number of stores	45	70	13	128
Total gross sales	\$1,079,103	\$3,051,491	\$758,057	\$4,889,051
Average sales per grocery	23,980	43,592	58,342	38,195
Rate of turnover on invest-	9.2	8.7	6.6	8.3
Average amount of capital invested	2,616	5,059	8,882	4,588
Average amount of credit outstanding	110	596	3,125	682
Average amount of stock carried	1,776	3,326	5,500	3,685

*In the fourth column, all averages are weighted.

A cursory examination of the statistics set forth indicates that average sales and gross margins increase from the poor to the middle, and from the middle to the wealthy classes. Turnover on investment, on the contrary, varies in the reverse order. The mean in each case is found in the so-called middle class. This is exactly the situation one would expect, since the more elaborate the service demanded, the greater the amount of capital needed and the larger the quantity of stock to be carried. The just and logical conclusion, in the light of these facts, therefore, would be that gross profit

^{*} For the form of this questionnaire, see page 26.

and net return should respectively increase for the successive classes in the order of poor, middle, and wealthy. Let us see how the facts in the case work themselves out.

In the remainder of the study all statistics are shown in percentages of gross sales; that is, in each case total gross sales is regarded as 100 per cent, while all other items are expressed in terms of percentage of total gross sales. Thus, for Table 4 it may be deduced that 100 per cent, or gross sales, in the poor neighborhood has reference to the "Average sales per grocery" entry shown in column 1 of the foregoing data, or \$23,980. Cost of merchandise averaged 84.8 per cent of \$23,980; gross profit, 15.2 per cent of the same figure. Again, 100 per cent, in the middle-class neighborhood has reference to the \$43,592 set forth in column 2 above; in the wealthy neighborhood, to \$58,342 in column 3, and for all classes to the weighted average, \$38,195.

In Table 4 is shown in percentages according to each class of trade served a summary of relative operating expenses and profits for service as it was found actually existing, that is, cash-and-carry and credit-and-delivery systems in combination. The percentage relations set forth in this table were obtained as follows:

- 1. Total gross sales were allowed to equal 100 per cent.
- 2. The cost of merchandise percentage was secured by dividing total annual purchases by total annual gross sales.
- 3. Gross profit represents the difference between the percentage cost of merchandise and total sales, which is considered 100 per cent.
- 4. Each item included in *Expenses* was expressed in percentage by dividing the sum expended for that item by gross sales, the sum of items of expense being expressed collectively as expenses.
- 5. Net return percentage was found by subtracting the percentage for expenses from the percentage for gross profits.

Table 4.— Relative Operating Expenses and Profits for Actual Service.

Expressed in Percentages of Gross Sales

	Poor (per cent)	Middle (per cent)	Wealthy (per cent)	For all* (per cent)
Gross sales	100	100	100	100
Cost of merchandise	84.8	83.8	81.1	83.6
Gross profit	15.2	16.2	18.9	16.4
Expenses	12.7	14.1	17.0	14.1
Net return	2.5	2.1	1.9	2.3

Details of expenses	Poor (per cent)	Middle (per cent)	Wealthy (per cent)	For all* (per cent)
Salaries and wages	6.6	6.6	6.6	6.6
Rent	2.2	2.3	2.8	2.4
Delivery cost inward	.1	.4	.6	. 3
Delivery cost outward	. 6	1.7	3.7	1.7
Wrapping supplies	.9	.8	.7	.8
Light, heat, and power	. 3	.2	.2	.2
Ice	.5	.4	4	.4
Interest on investment	.5	.6	.8	.6
Loss from bad debts	. 3	. 8	.3	.3
Other expenses	. 7	.8	.9	.8
Total expenses	12.7	14.1	17.0	14.1
Proprietors' salaries	4.5	3.9	2.8	3.7
Wages, members of family	1.5	.4	.4	.7
Office salaries		2	8	.3
Selling wages	. 6	2.0	2.6	1.8
Wages other employees		. 1		.1
Total salaries and wages	6.6	6.6	6.6	6.6

^{*} In the fourth column, all averages are weighted.

By eliminating from expenses the items of delivery cost and of loss from credit and bad debts, the percentages shown in Table 4 have been adjusted in Table 5 to set forth expenses and profits as based on a 100 per cent cash-and-carry basis, all other factors remaining constant:

Table 5.—Relative Operating Expenses and Profits for Service on a Strictly Cash-and-Carry Basis, Expressed in Percentages of Gross

	(per cent)	Middle (per cent)	(per cent)	For all* (per cent)
Gross sales		100	100	100
Cost of merchandise		83.8	81.1	83.6
Gross profit		16.2		16.4
Expenses		12.0	12.7	12.0
Net return	3.4	4.2	6.2	4.4
Details of expenses				
Salaries and wages	6.6	6.6	6.6	6.6
Rent	2.2	2.3	2.8	2.4
Delivery cost inward	.1	.4	.6	.3
Delivery cost outward				
Wrapping supplies	.9	.8	.7	.s
Light, heat, and power	.3	.2	.2	.2
Ice	.5	.4	.4	.4

Details of expenses — continued:	Poor (per cent)	Middle (per cent)	Wealthy (per cent)	For all* (per cent)
Interest on investment	. 5	.5	. 5	.5
Loss from bad debts	0	0	0	0
Other expenses	.7	.8	.9	.8
Total Expenses	11.8	12.0	12.7	12.0
Analysis of salaries				
Proprietors' salaries	4.5	3.9	2.8	3.7
Wages, members of family	1.5	.4	.4	.7
Office salaries		.2	.8	. 3
Selling wages	.6	2.0	2.6	1.8
Wages other employees		.1		.1
Total salaries and wages	6.6	6.6	6.6	6.6

*In the fourth column, all averages are weighted.

In the case of poor neighborhoods the net retu

In the case of poor neighborhoods the net return on the cashand-carry basis would thus be greater than that found in actual service by 0.9 of one per cent of the total gross sales, or the diference between 3.4 per cent (entry 5, column 1, Table 5) and 2.5 per cent (entry 5, column 1, Table 4); in middle-class neighborhoods, by a difference of 2.1 per cent; in wealthy neighborhoods, by a difference of 4.3 per cent; and a weighted average difference for all classes of 2.1 per cent.

Having found the percentages that would result if the retail grocery businesses were run on a strictly cash-and-carry basis, a computation of expenses and profits on an assumed 100 per cent credit-and-delivery basis was next undertaken. The percentages resulting are shown in Table 6:

Table 6.—Relative Operating Expenses and Profits for Service on a 100 per cent Credit-and-Delivery Basis, Expressed in Percentages of Gross Sales.

Gross sales Cost of merchandise Gross profit Expenses Net return or loss	84.8 15.2 19.2	Middle (per cent) 100 83.8 16.2 18.6 —2.4	Wealthy (per cent) 100 81.1 18.9 17.8 +1.1	For all* (per cent) 100 83.6 16.4 18.4 -2.0
Details and expenses			,	0
Salaries and wages	6.6	6.6	6.6	6.6
Rent	2.2	2.3	2.8	2.4
Delivery cost inward	.1	.4	.6	.3
Delivery cost outward	6.0	5.2	4.3	5.2

Details of expenses — continued:	Poor (per cent)	Middle (per cent)	Wealthy (per cent)	For all* (per cent)
Wrapping supplies	.9	.8	.7	.8
Light, heat, and power	.3	.2	.2	.2
Ice	. 5	.4	.4	.4
Interest on investment	. 6	.8	.9	.9
Loss from bad debts	1.3	1.1	.4	.9
Other expenses	.7	.8	.9	.8
Total expenses	19.2	18.6	17.8	18.4
Analysis of salaries				
Proprietors' salaries	4.5	3.9	2.8	3.7
Wages, members of family	1.5	.4	.4	.7
Office salaries		.2	.8	.3
Selling wages	. 6	2.0	2.6	1.8
Wages other employees		.1		.1
Total salaries and wages	6.6	6.6	6.6	6.6

In the case of *poor* neighborhoods a net loss is shown on the credit-and-delivery basis of 4.0 per cent (entry 5, column 1, Table 6), which would be less than the percentage of net return obtaining in the case of actual service by 6.5 per cent, (4.0 plus 2.5, entry 5, column 1, Table 4). In *middle-class* neighborhoods, a net loss of 2.4 per cent is shown, less than the return in actual service by a total of 4.5 per cent (2.4 plus 2.1 equals 4.5). In *wealthy* neighborhoods, a gain of 1.1 is indicated for 100 per cent creditand-delivery instead of net loss—less than the net return of actual service by 0.8 per cent (1.9 minus 1.1 equals 0.8). For all classes credit-and-delivery service makes and average of 4.3 per cent less than actual service obtains (2.3 plus 2.0).

In tables 7 and 8 is shown how the foregoing table was derived. In order to compute the percentages in Table 6, it was necessary, first, to segregate the percentage costs of delivery-and-credit service respectively as they actually existed, and secondly, to divide into the respective percentage costs the proportions of delivery-and-credit service for each class as derived from the original data. The percentages in Table 7 which have been segregated from the column on expenses in Table 4, indicate the cost of credit-and-delivery in actual service:

^{*} In the fourth column all averages are weighted.

TABLE 7.—ITEMS ENTERING INTO THE COST OF CREDIT-AND-DELIVERY SERVICE.

	Poor (per cent)		Wealthy (per cent)	For all (per cent)
Delivery outward	. 6	1.7	3.7	1.7
Loss from bad debts	.3	.3	.3	.3
Interest on outstanding debts*		.1	. 3	.1
Total	.9	2.1	4.3	2.1

The percentages here shown appear again under the first, fourth, and fifth entries of Table 8. The second and sixth entries of Table 8 show respectively the proportion of business delivered and of credit extended as computed from the original data of the questionnaire. Entry 3 indicates the quotient obtained by dividing entry 1—the cost of delivery outward—by entry 2—the proportion of business delivered—multiplied by 100. In other words if it costs 0.6 per cent of the total gross sales to deliver 10 per cent of the total gross sales, it will cost .06 to deliver 1 per cent. On a 100 per cent delivery basis, therefore, it would cost 6 per cent of the gross sales (100 times .06 equals 6).

The percentages under entries 4 and 5 added together, divided by that indicated in entry 6, and multiplied by 100, give the percentage appearing under entry 7. Entry 8 represents the sum of entries 3 and 7. These are the percentages which show the cost of credit-and-delivery on a 100 per cent basis, and which have been added to the corresponding percentages of Table 4, showing actual service, to obtain the percentages in Table 6.

TABLE 8.— RELATIVE EXPENSES INVOLVED IN 100 PER CENT CREDIT-AND-DELIVERY SERVICE

DELIVERT BERV	ICE			
	Poor (per cent)	Middle (per cent)	Wealthy (per cent)	For all (per cent)
1 Delivery outward	.6	1.7	3.7	1.7
2 Proportion of business delivered	10.0	32.7	86.6	37.3
3. Delivery outward - 100 per cent basis	6.0	5.2	4.3	5.2
4 Loss from bad debts	.3	. 3	.3	. 3
5 Interest on outstanding debts *		.1	.3	.1
6 Proportion of credit extended	19.4	27.0	75.1	33.3
7 Credit Service — 100 per cent basis	1.3	1.5	.8	1.3
8 Total credit and delivery - 100 per cent				
basis	7.3	6.7	5.1	6.5

^{*} Subdivision of interest on investment item of table 6.

GRAPHIC REPRESENTATION FOR VARIOUS SYSTEMS

From Fig. 4 which pictures the net return percentages shown in Tables 4 and 5, may be seen the relative gain for stores doing business under a 100 per cent cash-and-carry system, together with an indication of net percentage gain that exists under actual service as shown in Table 4.

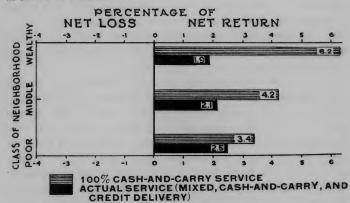


Fig. 4.— Graphic Representation of Tables 4 and 5, Showing a Grocer's Profits when Actual Service Rendered is Compared with a 100 Per Cent Cash-And-Carry Service.

In the first projection of each group, showing the percentages of gain for stores in wealthy neighborhoods, it is at once evident that more than three times the net return actually gained at present could be secured under a system of cash-and-carry, while in the second group showing percentages of gain for middle-class stores it is apparent that about twice the net profit could be made if the middle-class neighborhood were served under the cash-and-carry system. Among stores operating in poor neighborhoods, on the other hand, the gain under the cash-and-carry system would be comparatively slight - less than one-third over that which is realized in actual service. The reason for this variation is to be sought in Table 8, from which it may be deduced that stores operating in a wealthy neighborhood deliver all but 13.4 per cent of their merchandise and extend credit to all but 24.9 per cent of their customers. In middle-class neighborhoods on an average 67.3 per cent of goods sold are carried home by customers and 73 per cent of the customers pay cash. In poor neighborhoods the great bulk of the sales — 90 per cent are carried and 80.6 per cent of the business is for cash.

It is not surprising that stores serving wealthy neighborhoods would be by far the largest gainers if delivery costs were to cease on more than 86 per cent, and credit losses on 75 per cent, of their total sales. In the same way it is apparent that a store in a poor neighborhood, which in actual service is delivering only 10 per cent of its merchandise and extending credit to only 20 per cent of its trade, can make only a slight net gain by installing 100 per cent cash-and-carry.

The differences in extension between the shaded projections of each group in Fig. 4 may be regarded as showing what the merchant might give back to his customers and still make his normal profit if he were freed from credit-and-delivery expenditure. In the wealthy neighborhood it will be seen that this would mean the equivalent of 4.3 per cent or .043 cents on the dollar, in middle-class neighborhoods 2.1 per cent or .021 cents, and in poor-class neighborhoods 0.9 per cent or .009 cent on the dollar. If computed from the "Average sales groceries" item on page 13, this would amount to a return to consumers in wealthy neighborhoods of \$2,508.70 on average yearly sales amounting to \$58,342; in middle-class neighborhoods \$915.43 on sales amounting to \$43,592; and in poor neighborhoods \$215, by eliminating credit-and-delivery factors.

The same principle may be illustrated differently: The consumer who trades in a well-to-do neighborhood and buys ten dollars' worth of groceries a week — \$520 worth a year — pays \$22.36 a year for having those goods delivered and for the convenience of credit extended. It may easily be worth this amount to the housewife to have her supplies delivered, but it must be pointed out that her rate of delivery is lower because of the fact that some who trade at this store carry their own supplies and ask no credit. The question for the customer who carries her food and pays cash to decide is whether she is willing to pay at the rate \$22.36 a year to have her neighbor's groceries delivered.

From Fig. 5 it may be seen what would happen if all customers availed themselves of credit-and-delivery. Stores serving wealthy neighborhoods could continue to operate at a net profit margin of

1.1 per cent, because as has been observed in Table 5, they are already giving credit to 75 per cent of their trade and delivering 86 per cent of their sales, so that a 100 per cent credit-and-delivery service would mean comparatively little adjustment of their present system. Grocers in middle-class neighborhoods could operate only at 2.4 per cent net loss, while those serving poor neighborhoods would lose 4.0 per cent.

In order to continue in business under the 100 per cent creditand-delivery system, and make his normal profit, the grocer in a poor neighborhood would have to charge his customers \$1.06½

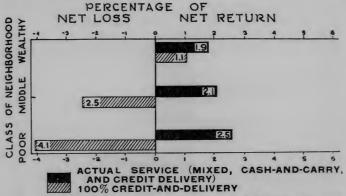


Fig. 5.— Graphic Representation of Tables 4 and 6, Showing a Grocer's Profits or Losses when Actual Service Rendered is Compared with a 100 Per Cent Credit-and-Delivery Service.

cents for every dollar's worth of goods they bought, and in the middle-class neighborhood \$1.04½. In the 100 per cent credit and delivery business in the wealthy neighborhood the grocer would only have to charge about ¾ths cent more on the dollar because he is practically doing a credit and delivery business at present.

From this exposition it is apparent that consumers in a poor neighborhood who are receiving credit and delivery accommodations are really receiving \$1.06½ cents worth of service for every dollar expended and the extra 6½ cents is being paid by fellow consumers. To be sure, only 10 per cent demand delivery and 20 per cent credit, so that the 6½ cents has to be paid for only a small percentage of the total trade, and for this reason the burden

of the credit-and-delivery is not more keenly felt by those who cash-and-carry in poor neighborhoods. In principle, however, it is none the less unfair. The customer demanding maximum service is really forcing higher prices upon persons who would willingly purchase the goods alone, or in other words taking an unfair advantage of the woman who would economize.

It should be obvious to those who object to paying credit-and-delivery expenses for fellow consumers that cash-and-carry businesses should be encouraged in their own neighborhoods and that those who desire credit-and-delivery accommodations should be

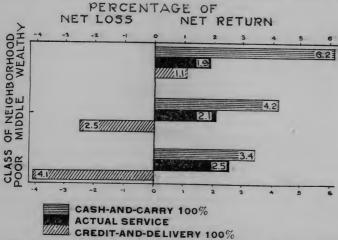


FIG. 6.—GRAPHIC REPRESENTATION OF TARLES 4. 5 AND 6, SHOWING A GROCER'S LOSSES AND PROFITS COMPARATIVELY FOR 100 PER CENT CASH-AND-CARRY SERVICE, ACTUAL SERVICE, AND 100 PER CENT CREDIT-AND-DELIVERY SERVICE.

permitted to bear the entire percentage charge at stores which cater especially to that type of patronage. Under the present mingling of credit-and-delivery and cash-and-carry in actual service, however, the average retailer is selling both goods and service. Theoretically he should have two scales of prices — one for goods and another for goods plus service. Practically, however, it is obvious that he could scarcely maintain two scales of prices, since such action would be impossible of adjustment among customers requiring varied degrees of delivery and of credit service.

Conclusions:

- 1. Net return increases with Cash-and-carry service for each class.
- 2. Net return decreases with Credit-and-delivery service for each class.
- 3. Wealthy class neighborhoods would gain most by Cash-and-carry service. Poor class neighborhoods would gain least by Cash-and-carry service.
- 4. Wealthy class neighborhoods would lose least by *Credit-and-delivery* service. Poor class neighborhood would lose most by *Credit-and-delivery* service.
 - 5. Middle-class neighborhood stores hold the mean in every case.

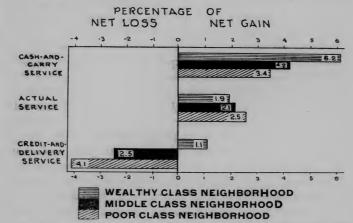


FIG. 7.— REARRANGEMENT OF FIGS. 4, 5 AND 6 BY SERVICE GROUPS TO SHOW CONTRASTS BETWEEN CASH-AND-CARRY, ACTUAL AND CREDIT-AND-DELIVERY SERVICE.

The same percentages illustrated in Figs. 4, 5, and 6 have been rearranged in Fig. 7 by service groups to show contrasts between cash-and-carry, actual, and credit-and-delivery systems.

It is interesting to note both in the case of the cash-and-carry system and the credit-and-delivery that the percentage of profit varies inversely in the different classes from what it does in actual service. For example, both under cash-and-carry and credit-and-delivery the store in the wealthy neighborhood makes the largest rate of percentage, while in the poor neighborhood the

lowest percentage of profit and the greatest percentage of loss is made. Under actual service on the contrary, the lowest net percentage of profit is made by the wealthy store and the highest in the poor store. This bears out the facts set forth in the statistics shown on page 13.

Cash-and-Carry Wholesale Buying

Out of the cash-and-carry versus credit-and-delivery discussion the retailer may well take a lesson to himself, for economic buying is as much a part of his business as is economic selling. If he patronizes a wholesale house that is carrying numerous small merchants on long-time credit, and parceling out goods to them in small lots, he may expect to pay that wholesaler high percentages of profit to make up his losses on others. On the other hand, if he trades with wholesalers doing a thirty-day cash business, wholesalers who sell merchandise in large unbroken lots, and who are making quick turnover, he can expect benefits comparable to those of the retail customer who patronizes the cash-and-carry grocer. This is the way out for the grocer who is experiencing the difficulties of chain-store competition. If the chain-store has undersold him, it is because of its advantage of participating in purchasing food in bulk. Instead of paying the purchase price on one case of oranges for example, it stands only its pro rata share on the carload. The grocer who would meet this competition, therefore, may organize with other independent grocers who are feeling a similar need and through the cooperative purchasing association meet the chain store on its own ground, buying his oranges at carload rates also.

Conclusion

A saving of four cents on the dollar under the cash-and-carry system in a well-to-do neighborhood, or two cents in a middle-class neighborhood, may or may not seem a substantial amount to the consumer. "For two cents or four cents carry home a dollar's worth of groceries in a market basket!" a housewife may disdainfully exclaim, and in those words she expresses her standard of living. For the woman who can afford servants, store delivery of food may be far more economical than an expenditure of the servant's time in going to and from the grocery. For another woman,

country air and reasonable rent in the suburbs may more than compensate the waste incurred in telephone orders and credit-anddelivery service. The degree to which the purchaser values her freedom is, therefore, another factor to be considered in choosing between cash-and-carry and credit-and-delivery practices. It is thus that social and economic demands tend to determine prices.

To those who express astonishment that the savings effected by the cash-and-carry system are not greater, we would respond that credit-and-delivery represents but one leak in the poor Ship of the High Cost of Living and that it is not until we have the sum total of the leaks that we find a large reason for high prices. It is not within the scope of this article to analyze contributing leaks. Suffice it to say that the demand for goods put up in small fancy packages - quarter-pound bricks of butter and six-ounce jugs of olive oil — fastidious tastes for foods out of season, the customer's indifference to receiving his just weight and measure, and uneconomical buying practices on the part of the retail merchant — all these are sources of increase in costs to the consumer worthy of consideration and research. The sum total percentage of such wastes would in all probability surprise the consumer who disregards any one of them as being too trivial or too inapplicable to affect her own mode of purchasing.

For fiscal year ending..... 1. Name.... 2. Location of store..... St..... Borough..... 3. Form of organization...... No. of active partners.... 4. Date of establishment of business..... 5. Class of customers..... 6. Average number of customers served daily..... 7. What percentages of total sales are the following: Credit..... Cash..... Delivery..... Carry...... 8. Average amount of credit outstanding..... 9. Average amount of stock carried..... 10. Average length of time credit is extended..... 11. Did any members of the family assist you in the business during 1917 without compensation?..... If so, fill in the following: Capacity in which employed..... Number of hours employed daily..... Number of months employed in 1917..... Estimated value of services a week..... 12. Has this report been made from books kept by double entry? By single entry?..... 13. If you have no regular set of books, please answer "yes" or "no" to the following: (a) Do you keep a record of daily receipts and expenditures? (b) Do you deposit all receipts in the bank and make all payments except petty cash payments by check?..... (c) Did you obtain the figures furnished by you in this report from your cash records?..... (d) If not, state from what sources you obtained the figures furnished?.... 1917 1918 14. Total volume of sales..... 15 Cost of merchandise..... 16. Gross profit..... 17. Expenses.....

REPORT FOR RETAIL GROCERS

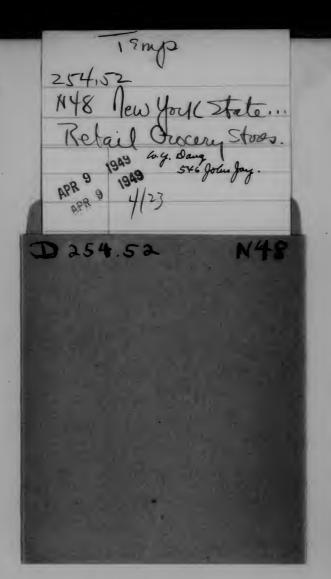
18. Net profit
19. Merchandise inventory at be-
ginning.
ginning
21. Total
21. Total
own use
23. Inventory at end
24. Total deductions
25. Cost of merchandise
26. Breakage, shrinkage and spoilage
included in 24
27. Rent (exclusive of living quarters)
28. Delivery cost inward
29. Delivery cost outward
30. Wrapping supplies
of Tight hast and manner
31. Light, heat and power
32, Ice
33. Officers' salaries. No
34. Branch managers'
salaries No. of emp
salaries No. of emp 35. Office salaries No
36. Selling wages No
37. Wages other employees
38. Loss from bad debts
39. Other expenses
40. Total expenses
41. Stable, rent and food
42. Horseshoeing
43. Veterinary service
44. Repairs to wagons and harness
45. Insurance
46. Depreciation
47. Other expenses
48. Total expenses, horses and
wagons
49. Garage rent
50. Gasoline and oil
51. Tires
52. Repairs
53. Accessories
54. Insurance
55. Depreciation
56. Other expenses
57. Total expenses, automobiles
58. Wages (drivers, chauffeurs, de-
livery boys, etc.)
livery boys, etc.)
cartage and expressage
ourtuge und expressage

		1917	1918
60.	Percentage of item No. 59	appli-	
	cable to delivery cost in	ward —	
61	per cent	1:	
01.	Percentage of item No. 59 cable to delivery cost out	appii-	
62.	Cartage and expressage	waru	
63.	Stationery and office supplied	es	
64.	Telephone		
05.	Carrares and gratuities		
65.	Advertising		
68	Donations, presents, etc	• • • • •	
69.	Coat and apron supply Removal of rubbish	• • • • •	
70.	Window cleaning.	• • • • •	
71.	Sawdust	• • • • •	
72.	Repairs to equipment and fix	xtures.	
73.	Insurance		
<i>75.</i>	Depreciation		
70.	Other expenses		
77.	Total other expenses		
78	Depreciation on equipment.	Original Rate of	
79.	Horses and wagons	cost Dep.	Amount
80.	Automobiles.	• • • • •	
81.	Store equipment and fixture	S	
82.	Personal cash withdrawals		
83.	Net capital investment at ning	begin-	
84.	Net capital investment at en	id	
85.	Average amount of total wee	kly sales \$	
86.	Average amount of weekly sa	ales of the following:	
	Butter \$	Sugar	\$
	Eggs, \$ Flour \$	Milk, fluid	\$
	riour p	Milk, condensed and	
		evaporated,	\$

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